

REMARKS

Examiner P. Perkins is thanked for the thorough examination and search of the subject Patent Application.

All Claims are believed to be in condition for Allowance and that is so requested.

Reconsideration of the rejection under 35 U.S.C. 102 of Claims 1, 3, 5, 6, 16, 18, 20, and 21 as being anticipated by Lee is requested in accordance with the following remarks.

It is agreed that Lee discloses a similar method of forming STI. However, Applicants' invention is an improvement over Lee's process. In col. 4, lines 10-22, Lee discloses an etching step after the HDP-CVD deposition to separate the gap fill layer overlying the trenches from the gap fill layer overlying the first etch stop layer (see Fig. 8). This etching is performed using a HF dip (col. 4, lines 17-18).

Applicants' invention does not require the additional HF dip step to separate the gap fill layers. As claimed in Claim 1, for example, at lines 15-21:

"...after said oxide layer fills said isolation trenches, said deposition component is discontinued while continuing said sputtering component until said oxide layer is at a desired depth in said isolation trenches whereby said oxide layer within said isolation trenches is disconnected from said oxide layer overlying said etch stop layer;"

It is within the HDP-CVD step that the disconnection or separation of the oxide layers occurs. Discontinuing the deposition component while continuing the sputtering component performs this separation. This is clearly different from Lee's process which requires an additional HF dip step not used in Applicants' process.

Reconsideration of the rejection under 35 U.S.C. 102 of Claims 1, 3, 5, 6, 16, 18, 20, and 21 as being anticipated by Lee is requested in accordance with the remarks above.

Reconsideration of the rejection under 35 U.S.C. 103 of Claims 2, 4, 7, 8-10, 13-15, 17, 19, and 22-25 as being obvious over Lee in view of Hao et al is requested in accordance with the following remarks.

U.S. Patent 6,197,691 has been used by the Examiner as prior art to the subject application under 35 U.S.C. 102(e).

U.S. Patent 6,197,791 is removed as a reference under 35 U.S.C. 103{c} because the referenced patent and the claimed invention were, at the time the invention was made, owned by the same person. Please see the following 103{c} statement:

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35 U.S.C. 103 {c} statement

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APplication 10/002,987 and U.S. Patent 6,197,691 were, at the time the invention of Application 10/002,987 was made, commonly owned by Chartered Semiconductor manufacturing, Ltd., Singapore (SG) .

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With the removal of U.S. 6,197,691 as a reference under 102(e), the above rejection is now considered moot. Reconsideration of the rejection is respectfully requested.

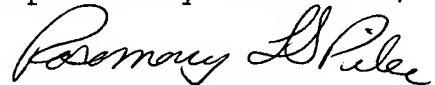
Reconsideration of the rejection under 35 U.S.C. 103 of Claims 2, 4, 7, 8-10, 13-15, 17, 19, and 22-25 as being obvious over Lee in view of Hao et al is requested in accordance with the remarks above.

Applicants have reviewed the prior art made of record and not relied upon and agree with the Examiner that while the reference Fu et al is of general interest, it does not apply to the detailed Claims of the present invention.

Allowance of all Claims is requested.

It is requested that should Examiner Perkins not find that the Claims are now Allowable that she call the undersigned at 765 4530866 to overcome any problems preventing allowance.

Respectfully submitted,



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